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DEC 06 2006

Docket No.: 90040-104774

Application No. 10/696,104
Amendment dated
After Final Office Action of September 6, 2006

REMARKS

Applicant has carefully studied the detailed FINAL Office Action mailed September 6, 2006 and thanks Examiner Thomas for review of the pending claims. Claims 1-20 were pending and are currently rejected. No claims have been amended and no claims have been added in this paper. Accordingly, claims 1-20 remain under prosecution in this application.

I. Claim Rejections Under 35 U.S.C. §103

Claims 1-3, 6-8, 12-14 and 17-19 are rejected under 35 USC § 103(a) as being unpatentable over U.S. 6,088,210 to Goodman ("Goodman") in view of U.S. 3,483,430 to Nuckolls et al ("Nuckolls"). The FINAL Office Action admits that Goodman does not disclose a spark gap connected in series with the diode. To provide support for the absent teachings of Goodman, the FINAL Office Action contends that Nuckolls discloses "...an apparatus (Figure 2) for an inductive load 7 comprising a spark gap 3 connected in series with a diode 9." The undersigned respectfully disagrees with the FINAL Office Action's position.

Applicant respectfully submits that the device 3 of Nuckolls is not a "spark gap" nor does the device 3 function as a "spark gap." Throughout the prosecution of the present application, the Office Action has relied on Nuckolls at reference numeral 3 of Figure 2 to show a teaching of a spark gap.

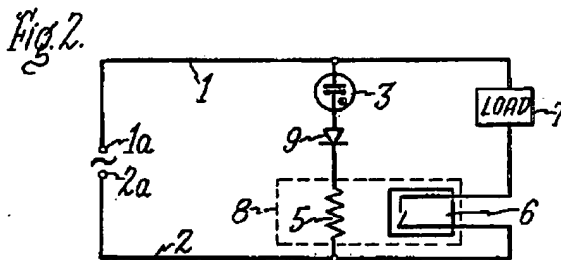


Figure 2 of Nuckolls

In response to the Non-Final Office Action dated 2/9/06, Applicant pointed out that the alleged spark gap of Nuckolls is actually a gas tube, which is responsive to selected radiation (e.g. ambient light) to cause a photo-emission of electrons from the cathode of the tube to result in a current flow through the tube (see generally column 2, lines 27-39). Simply stated, the "gas tube 3" functions as a light triggered electrical switch for switching a street light "on" at night.

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Conversely, independent apparatus claim 1 and independent method claim 12 of the present invention both recite a "spark gap." A "spark gap" is a term of art used in electronics to refer to the arrangement of two electrodes between which a disruptive discharge of electricity may occur such that the insulation (i.e. medium disposed between the two electrodes) is self-restoring after the passage of a discharge (see page 551 from the Radio Shack Dictionary of Electronics, 4th Edition, Second Printing, Copyright 1974, which was provided in response to the last, Non-Final Office Action).

In response to the Applicant's above remarks, the FINAL Office Action still maintains that the "gas tube 3" of Nuckolls is indeed a spark gap and goes on to state that the *"(s)park gap disclosed by Nuckolls has two electrodes, and a dielectric/insulating medium (inert gas) between the electrodes breaks down during voltage surge."* See page 4, lines 16-18 of the FINAL Office Action in the "Response to Arguments" section. Firstly, the undersigned wishes to point out that, contrary to the Examiner's assertion, Nuckolls never uses the phrase "voltage surges" in conjunction with the electrically conductive function of gas tube 3. The reason is simple. Gas tube 3 is designed to conduct electricity not when the voltage across its electrode's surges, but rather, when ambient light causes photo emission and the gas in tube 3 to become ionized (see col. 2, lines 34 et. seq.) Moreover, after considering the above remarks provided in the FINAL Office Action, Applicant has carefully reviewed the teachings of Nuckolls and has identified a proper teaching of a spark gap at Figure 5 and col. 5, lines 34-43, which is set forth below:

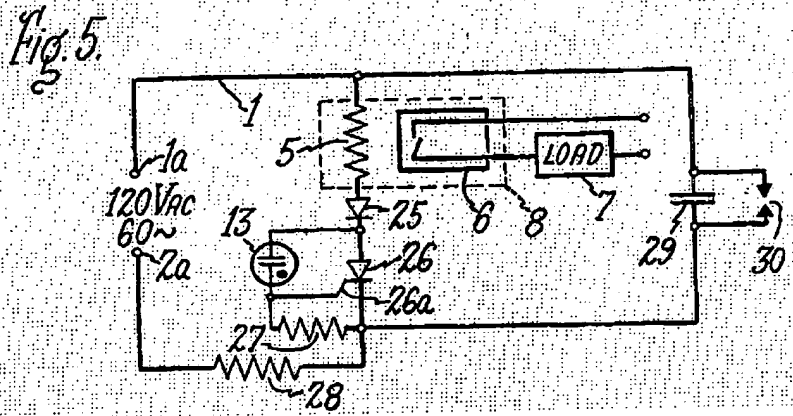
Surge and transient voltage protection for the circuit is provided by parallel-connected capacitor 29 and resistor 28, which are arranged in shunt with the above-described circuit components and in series with resistor 28. In this arrangement capacitor 29 effectively shorts circuits high frequency voltage transients, and resistor 28 clamps power voltage surges of longer duration as the series resistor 28 provides the series voltage dropping element across which the transients and surges appear.

col. 5, lines 34-43 of Nuckolls

As shown below in Figure 5, the spark gap is clearly identified at 30. In contrast, a gas tube is shown generally at 13. The gas tube 13 is an alternative embodiment of the gas tube 3, which is shown in Figure 2 above.

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In view of the above-identified teaching taken directly from Nuckolls, Applicant poses the following questions to the FINAL Office Action:

- how can the gas tube 3/13 provide a teaching of a spark gap, when, in fact, a spark gap is disclosed at reference numeral 30; and
- how can the gas tube 3/13 provide the alleged functionality of a spark gap, when, in fact, a functional teaching of the spark gap is discussed at col. 5, lines 34-43 which does not in any way correlate with the function of gas tube 3/13 as set forth?

As such, Applicant respectfully submits that Nuckolls may not and can not provide support for a teaching of a spark gap at reference numeral 3, which is specifically limited in structure and function as a gas tube photo-switch. Thus, Applicant again respectfully submits that Nuckolls does not make up for the deficiencies in Goodman to render the claimed invention obvious.

Because the gas tube 3/13 of Nuckolls does not operate in the realm of a "disruptive discharge" or "voltage surges" as a spark gap, a fair reading of Goodman in conjunction with Nuckolls might suggest to one skilled in the art that a phototube could be placed in series with a diode; however, in col. 2, lines 27 et. seq., the combined teachings of Goodman and Nuckolls do not provide a teaching or suggestion of the invention of claim 1.

Obviousness cannot be established by combining prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. The mere fact that the prior art may be modified in the manner suggested by an examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. *Ex parte Gottling* (B.P.A.I. 2005).

For at least these reasons, Applicant submits that a prima facie case obviousness under § 103(a) has not been established and the rejection as to independent claims 1 and 12 should be

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withdrawn. Claims 2-11, 13-20, which depend from claims 1 or 12 include additional patentably distinct limitations. Therefore, claims 2-11 and 13-20 are also patentable.

Thus, Applicant respectfully requests the withdrawal of the rejection with respect to claims 1-20. For the reasons set forth above, the undersigned believes that all claims of record are in condition for allowance.

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CONCLUSION

For all of the above reasons, Applicant submits the specification and claims are now in proper form, and that the claims presented define patentably over the prior art. Therefore, Applicants submit that this application is now in condition for allowance, and such action is respectfully solicited.

If for any reason the application is not believed to be in full condition for allowance, the Examiner is earnestly requested to contact the undersigned.

Any fee due with the filing of this paper is identified in the attached Amendment Transmittal. However, if any additional fee is due, please charge our Deposit Account No. 50-3145, under Order No. 90040-104774 from which the undersigned is authorized to draw.

Dated: 12/6/06

Respectfully submitted,

By 

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